

222



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/931,476	08/16/2001	Andrew A. Poggio	SUN-P5933-NAK	2964
22200	7590	12/14/2004	EXAMINER	
PARK, VAUGHAN & FLEMING LLP 702 MARSHALL STREET SUITE 310 REDWOOD CITY, CA 94063			NGUYEN, TRONG NHAN P	
			ART UNIT	PAPER NUMBER
			2152	

DATE MAILED: 12/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<p align="center">Office Action Summary</p>	Application No. 09/931,476	Applicant(s) POGGIO ET AL.	
	Examiner Jack P Nguyen	Art Unit 2152	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 August 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
6) <input type="checkbox"/> Other: _____ |
|---|--|

DETAILED ACTION

Claims 1-33 are being examined.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

The term "large enough" in claims 3, 4, 21, 28, and 33 are relative terms which render the claim indefinite. The term "large enough" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

Claims 1-19, 21-26, 28-33 are rejected under 35 U.S.C. 102(e) as being anticipated by Epps et al, 6,721,316 (Epps hereafter).

As per claim 1, Epps teaches a protocol processor (130, fig. 1) for processing electronic communications, comprising: a communication interface configured to receive an inbound communication from a communication link (111, fig. 1) and send an

Art Unit: 2152

outbound communication to the communication link (112, fig. 1); a data distribution interface (170, fig. 1; *fabric interface is functionally equivalent to data distribution interface*) configured to receive outbound data from a communication entity and send inbound data to the communication entity (120, fig. 1; *switching fabric is equivalent to communication entity; fabric interface sends inbound data (113, fig. 1) to switching fabric and receives outbound data (114, fig. 1) from switching fabric*); and a first protocol processing element configured to extract said inbound data from said inbound communication and generate said outbound communication from said outbound data (col. 3, lines 21-29; *inbound data are extracted into packet entities; packets are then processed by system; system modifies packets with new header information for outbound transmission*), wherein said protocol processing element comprises: a register file for storing one of: said inbound communication as said inbound data is extracted (240, fig. 12, col. 6, lines 3-6; col. 7, lines 7-14; *Receive Buffer Manager via its Queue Manager {1210, fig. 12} stores extracted data packets (with headers and tails) in its buffer memory {245, fig. 12} in a queued sequence before sending the data on to fabric interface*); and said outbound data as said outbound communication is generated (280, fig. 15, col. 7, lines 57-60; *Transmit Buffer Manager works similarly as Receive Buffer Manager, i.e., it provides a buffer memory {285, fig. 15} to store data for outbound data transmission*); a parse unit for retrieving data from said inbound communication (215, fig. 2; col. 5, lines 50-52; *Receive FIFO, as stated above, parses the inbound message into packets that include both headers and tails (payloads) components*); a lookup unit for using said retrieved data to identify a first control block indicating how to extract said

Art Unit: 2152

inbound data (430, fig. 4, col. 6, lines 34-37; Pointer Lookup Unit (PLU) is functionally equivalent to lookup unit); and a modification unit for performing one or more of said extraction and said generation (215, fig. 2, col. 5, lines 50-52; *Receive FIFO extracts inbound data into packets. It further extracts the packets into headers and tails portions. Receive FIFO then passes processed packet data to the pipeline switch {220, fig. 2} which further processes the packets by breaking it down into smaller components and generates new header information for the packets as disclosed in col. 5, lines 63 – col. 6, lines 6).*

As per claim 12, it is rejected for similar reasons as claim 1 addressed above. Epps further teaches a first register configured to store a header of a first packet received from a communication link (215, fig. 3; Receive FIFO extracts and stores header and tail (payload) information from data packet); a parse unit coupled to said first register and configured to parse said header to extract data from one or more header fields (320, fig. 3, col. 5, lines 54-55; header portions (or fields) are extracted from packet by Receive FIFO); a lookup unit (430, fig. 4) coupled to said first register and configured to use said data to identify a control block associated with the first packet, wherein said control block indicates how the first packet may be processed (col. 6, lines 34-37; PLU identifies actions (via operands - also equivalent to control blocks) to be taken based on fields extracted from data packets); and a modification unit coupled to said first register and configured to modify the first packet (see claim 1 above).

Claim 22 is rejected for similar basis as claims 1 and 12 above. Epps further teaches a timer unit (1210, fig. 12; timer unit is a component within the queue manager) coupled to said first register and configured to manage a set of timers associated with said control block to ensure that said set of data is transmitted within a predetermined period of time (*col. 15, lines 51-52; queue manager manages and coordinates the scheduling of packet traffic to be transmitted in a queue manner and can also according to their class of service (CoS) priority levels as disclosed in [col. 17, lines 46-52]; it also has a congestion avoidance scheme, e.g., Random Early Detection (RED) (1420, fig. 14) and programmable timer to control the time data packets are passed through the queues as disclosed in [col. 31, lines 51-52] to expedite packet transmission and avoid traffic congestion*).

As per claims 29 and 31, they are rejected for similar reasons as claims 1, 12, and 22 above. Epps further teaches updating said control block (*col. 24, lines 45-50; PLU table that includes operands (or control blocks – see claim 12 above) gets updated by CPU*).

As per claims 2-11, they are rejected for similar reasons as claim 1 above. Epps further teaches register file comprises one or more registers (245, fig. 12; storage buffer is functionally equivalent as storage registers); register file is large enough to store said inbound and outbound communication intact (*col. 7, lines 17-20; inbound and outbound storage buffers are functionally equivalent by design*); inbound communication is a packet (113, fig. 1); a second protocol processing element (220, fig. 2; as stated in claim 1, pipeline switch further processes data packets received from Receive FIFO);

Art Unit: 2152

protocol processing element further comprises a timer unit for managing a timer associated with a communication stream involving said communication entity (col. 32, lines 51-52; timer unit can be programmed to control packet flows within the system); a control block cache for caching said first control block (760, fig. 4, col. 6, lines 34-37; PLU memory stores operands extracted from data packet); data streaming unit configured to stream said inbound and outbound communication into said register file (1210, fig. 12, col. 7, lines 15-17; queue manager regulates data stream (packets) between storage buffers).

Claim 13 is rejected for similar reasons as claim 22 above.

Claims 14-19, 21 are rejected for similar reasons as claims 1-11 above. Epps further teaches modifying said header comprises removing said header (320, fig. 3; header portion is extracted and removed from data packet).

Claims 23-26, 28, 30, 32-33 are rejected for similar reasons as claims 1-11, 22, 29, and 31 above.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 20, 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Epps et al, 6,721,316 (Epps hereafter).

As per claims 20 and 27, Epps does not specifically disclose first register is greater than 64 bytes in size. However, Epps teaches the header buffer (320, fig. 3) to store header data extracted from data packet can be programmed to be of any size according to user's specifications (col. 8, lines 22-27). Hence, it would have been obvious to one of ordinary skill in the art to be motivated to modify Epps teachings by setting buffering sizes that can accommodate the data size to be processed [col. 8, lines 25-27].

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Henderson et al, US Pub 2003/0152078 ; Minami et al, 6,034,963 ; Ambe et al, US Pub 2002/0196796 ; Welin, US Pub 2002/0031086 ; Engel et al, 6,115,393 ; Minami et al, US Pub 2004/0081202; Lawande et al, 6,219,697; Bennet et al, 6,345,302

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jack P Nguyen whose telephone number is (571) 272-3945. The examiner can normally be reached on M-F 8:30-5:00 PM.

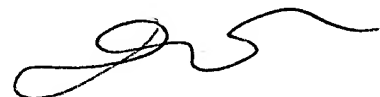
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenton Burgess can be reached on (571) 272-3949. The fax phone

Art Unit: 2152

number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

jpn



Dung C. Dinh
Primary Examiner